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(54) An illuminating device.

(57) An illuminating device (1) with preferably two or a plurality of transparent light panels (2, 3) or groups of light panels which are disposed serially and in a longitudinal alignment and which, in the transverse direction are triangularly or arcuately constructed, with profiled top (5) and bottom (4) frame members for supporting and/or retaining the light panels (2, 3) or groups of light panels and with profiled base members through which these latter can be supported on a base frame, characterised in that the profiled top frame members (5) are constructed with external holders (10, 11) and in that it is possible to fix to the holders (10, 11) separable section members (12) for supporting attachment parts (16, 17) such as sunshade elements which engage over the light panels (2, 3) or groups of light panels.

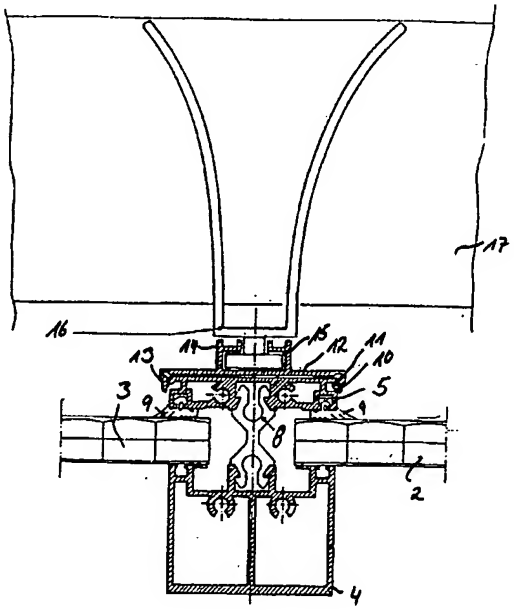

Fig. 2

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The invention relates to a skylight having preferably at least two transparent light panels or groups of light panels which are disposed serially and in a longitudinal alignment and which, in the transverse direction are triangularly or arcuately constructed, with profiled top and bottom frame members for supporting and/or retaining the light panels or groups of light panels and with profiled base members through which these latter can be supported on a base frame.

Skylights of this type are used as roof elements for illuminating buildings with daylight, e.g. in the form of 'roads' of light or as lighting for example over passages.

In the case of a prior art skylight of the type mentioned at the outset, the light panels or groups of light panels are framed in profiled members which are mounted directly on the profiled supporting strips around the edges of the base frame by means of screwed connections and the like. For heat insulation purposes, they can be lined for instance with a synthetic material. In such cases, if special attachment elements have to be employed, then these have to be mounted on additional profiled attachment members which require to be fixed to the base frame. If such skylights have to be provided with a protection against sunlight, such protection being provided for instance in sheet form, then for each individual case considerable outlay must be anticipated both in terms of construction and also installation.

The object of the present invention is to provide a skylight of the type mentioned at the outset and in which, in a structurally simple and easily implemented manner, can be made more versatile, e.g. by means of additional attachment parts such as sunshade elements, or used without such parts.

The present invention is a skylight with preferably a plurality of transparent light panels or groups of light panels which are disposed serially and in a longitudinal alignment and which, in the transverse direction are triangularly or arcuately constructed, with profiled top and bottom frame members for supporting and/or retaining the light panels or groups of light panels and with profiled base members through which these latter can be supported on a base frame, characterised in that the profiled top frame members are constructed with external holders and in that it is possible to fix to the holders separable section members for supporting attachment parts, such as sunshade elements which engage over the light panels or groups of light panels.

In a structurally extremely simple manner, it is possible with the skylight according to the invention to provide, at the initial installation or even subsequently, sunshade elements which engage for example over light panels or groups of light panels. The necessary installation costs involved are limited to the mounting of the section members on the profiled top frame members, additional cold bridges advantageously being avoided because thermally isolating elements provided between the profiled top and bottom frame members likewise ensuring that also the profiled sections are thermally insulated from the profiled bottom frame members. Preferably, the profiled sections are constructed as clip-on profiled sections and they engage completely over the profiled top frame members in a transverse direction and also over the top of the attachment so that even after corresponding profiled sections have been fitted, a generally closed and thus also pleasant-looking appearance is created.

Embodiments of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:-

Fig. 1 is a detail of a longitudinal section through an embodiment of a skylight according to the invention, with cross-sections through the profiled top and bottom frame members;

Fig. 2 is a view similar to that in Fig. 1 showing the embodiment according to the invention with sunshade elements fitted as attachment parts,

Fig. 3 is a detail of a cross-sectional view of an embodiment of a skylight according to the invention in the region of the attachment of profiled top and bottom frame members and of the light panels on a base frame, and

Fig. 4 is a diagrammatic cross-sectional view of an embodiment of a skylight according to the invention in the region of the roof ridge with a triangular or pitched roof type of arrangement of the groups of light panels provided on the two sides.

The skylight 1 shown in the drawings and representing the example of embodiment illustrated may have a plurality of transparent light panels 2 or 3 disposed in a serial alignment and at an acute angle, as is illustrated diagrammatically in Fig. 4. The light panels 2, 3 are in each case supported on profiled bottom frame members 4 and profiled top frame members 5. As Fig. 4 shows, the profiled bottom frame members, at the roof ridge end, rest on a thermally insulating element 6 which for its part is so framed by a roof ridge retaining member 7 that it grips the light panels 2 and 3 and is held at the top by profiled frame members 5 which are bent over so that they are not welded to one another.

As is shown in greater detail in Figs. 1 and 2, the profiled bottom frame members 4 and the profiled top frame members 5 are so constructed that they can be fixed to one another via spacers 8 which in the example of embodiment shown are constructed as snap-fitting spacing elements consisting of synthetic plastics material so that they are also thermally insulating elements. Through interposed packings 9, the light panels 2 and 3 can be fixed at only negligible installation cost, cold bridges between outer profiled struts and inner profiled struts being avoided.

The profiled top frame members have external holders which, with the associated upper marginal widened portions or matching catches 11 form a catch-type connection. Adapted to be attached to these holders on the profiled top frame members 5 is a section member generally designated 12 and which, in the example shown, comprises catches 13 which partially engage the corresponding catch or insertion grooves and which, in the assembled state, can be separably and lockably fixed on the profiled top frame members. In the example illustrated, the section members 12 engage completely over the profiled upper frame members in a transverse direction so that from the outside they seem to be an integral constituent part thereof. At the top, they have widened heads 14 which partially define a receiving space 15. In this receiving space 15, in accordance with the embodiment shown in Fig. 2, sheet holders 16 are inserted which in turn support protective sunshades 17 which in the longitudinal direction of the illuminating device engage over the top of the light panels. The section members can also be fitted subsequently with just a very few operations and after assembly, no cold bridges are formed but instead thermal separation is guaranteed by the thermally insulating elements which are provided.

In the region of the base frame 18, the base profiles 19 of the illuminating device are so provided that the vapour seal 20 is included. To this end, firstly the profiled bottom frame member 14 is bolted to the profiled base member 19. It is possible to provide on the bearing surface also a thermally insulating element in the form of a synthetic plastics panel for example. Provided on the underside of the profiled base member 19 which is towards the base frame 18 are press-in members 21 so that after the profiled base member 19 has been fitted, the press-in members 21 are introduced into the vapour seal and ensure absolute sealing-tightness of the illuminating device on the base frame 18. By means of a sealing-tight profile member 22, the light panels are additionally enclosed by the profiled base member 19, a thermal insulation also being provided from the outside inwardly.

All in all, the illuminating device according to the invention provides an easily assembled part which can be versatile in use according to the particular application and also in terms of the thermal isolation from the outside of the illuminating device can be advantageously used in an area which faces the interior of the building.

Claims

1. A skylight (1) with preferably a plurality of transparent light panels (2, 3) or groups of light panels which are disposed serially and in a longitudinal alignment and which, in the transverse direction are triangularly or arcuately constructed, with profiled top (5) and bottom (4) frame members for supporting and/or retaining the light panels (2, 3) or groups of light panels and with profiled base members (19) through which these latter can be supported on a base frame (20), characterised in that the profiled top frame members (5) are constructed with external holders (10, 11) and in that it is possible to fix to the holders (10, 11) separable section members (12) for supporting attachment parts (16, 17), such as sunshade elements which engage over the light panels (2, 3) or groups of light panels.

2. A skylight as claimed in claim 1, characterised in that the holders (10, 11) of the profiled top frame members (5) comprise catch or insertion grooves (10) and in that the section members (12) have catches (13) which engage catch or insertion grooves (10).

3. A skylight as claimed in claim 1 or claim 2, characterised in that in the transverse direction, a section member (12) engages completely over the top of a profiled top frame member (5).

4. A skylight as claimed in any preceding claim, characterised in that housings (15) for fixing the attachment parts (16, 17) are constructed in the section member (12).

5. A skylight as claimed in any preceding claim, characterised in that a section member (12) can be connected to the profiled bottom frame member (4) via the profiled top frame member (5) and a spacer (8).

6. A skylight as claimed in claim 5, characterised in that the spacer (8) is constructed as a snap-fitting spacing element.

7. A skylight as claimed in claim 5 or claim 6, characterised in that the spacer (8) is constructed as a thermally isolating element.

8. A skylight as claimed in any preceding claim, characterised in that the profiled top frame member (5) and also the profiled bottom frame member (4) may have their longitudinal ends applied against a profiled base member (19) which can be supported on the base frame (18) through an interposed vapour seal (20).

9. A skylight as claimed in claim 8, characterised in that the profiled base member (19) comprises push-in members (21) which can be inserted into the vapour seal (20).

10. A skylight as claimed in claim 8 or claim 9, characterised in that a thermally isolating element consisting of a synthetic plastics material is provided between the profiled bottom frame member (4) and the profiled base member (19).

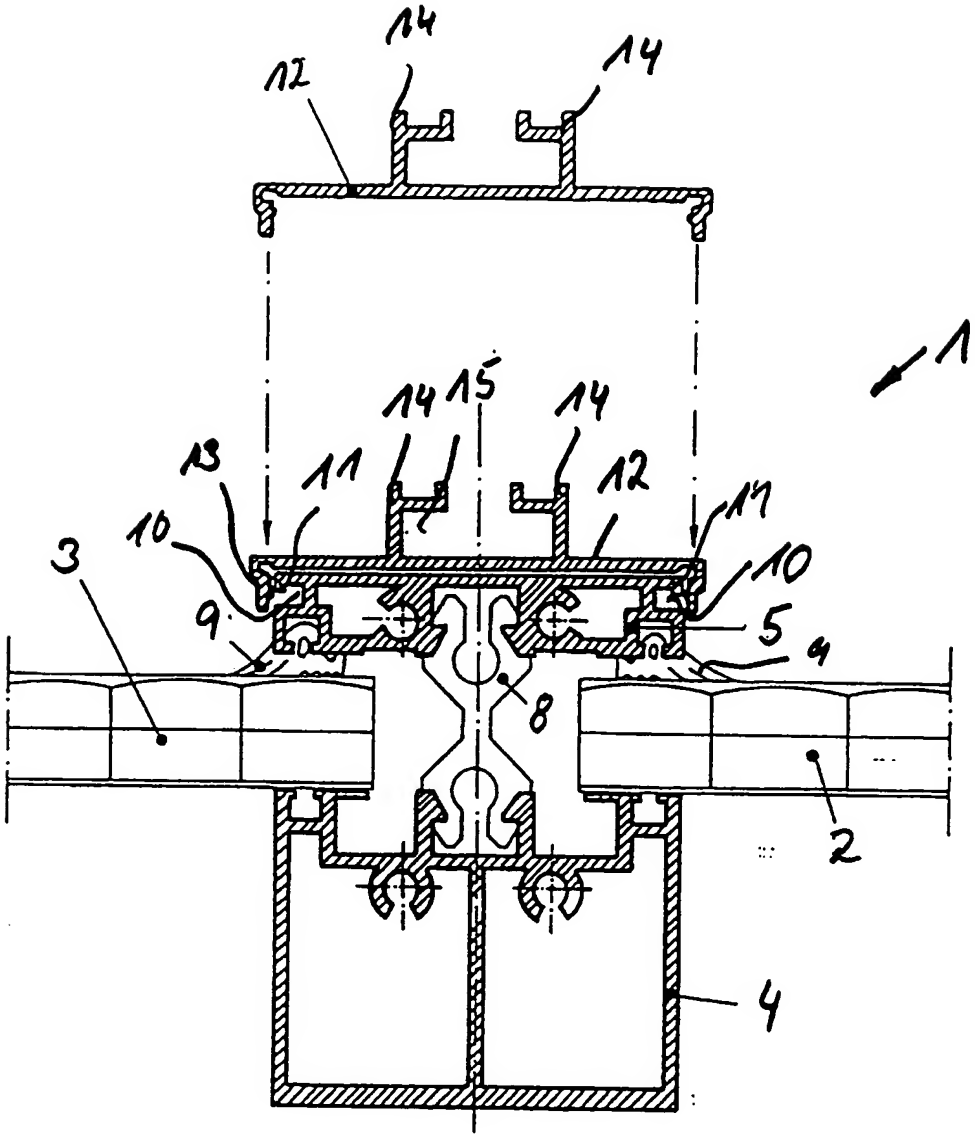

Fig. 1

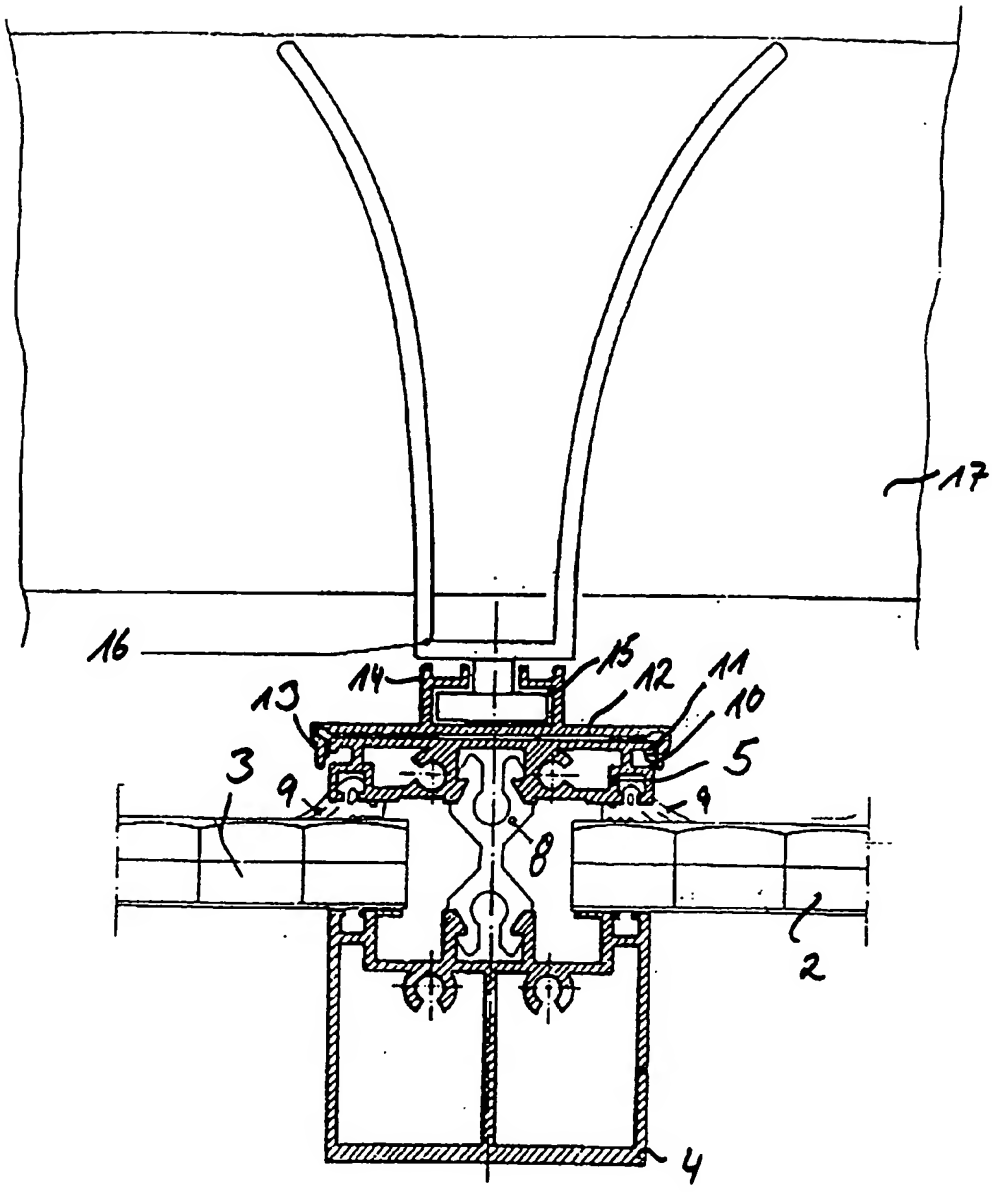

Fig. 2

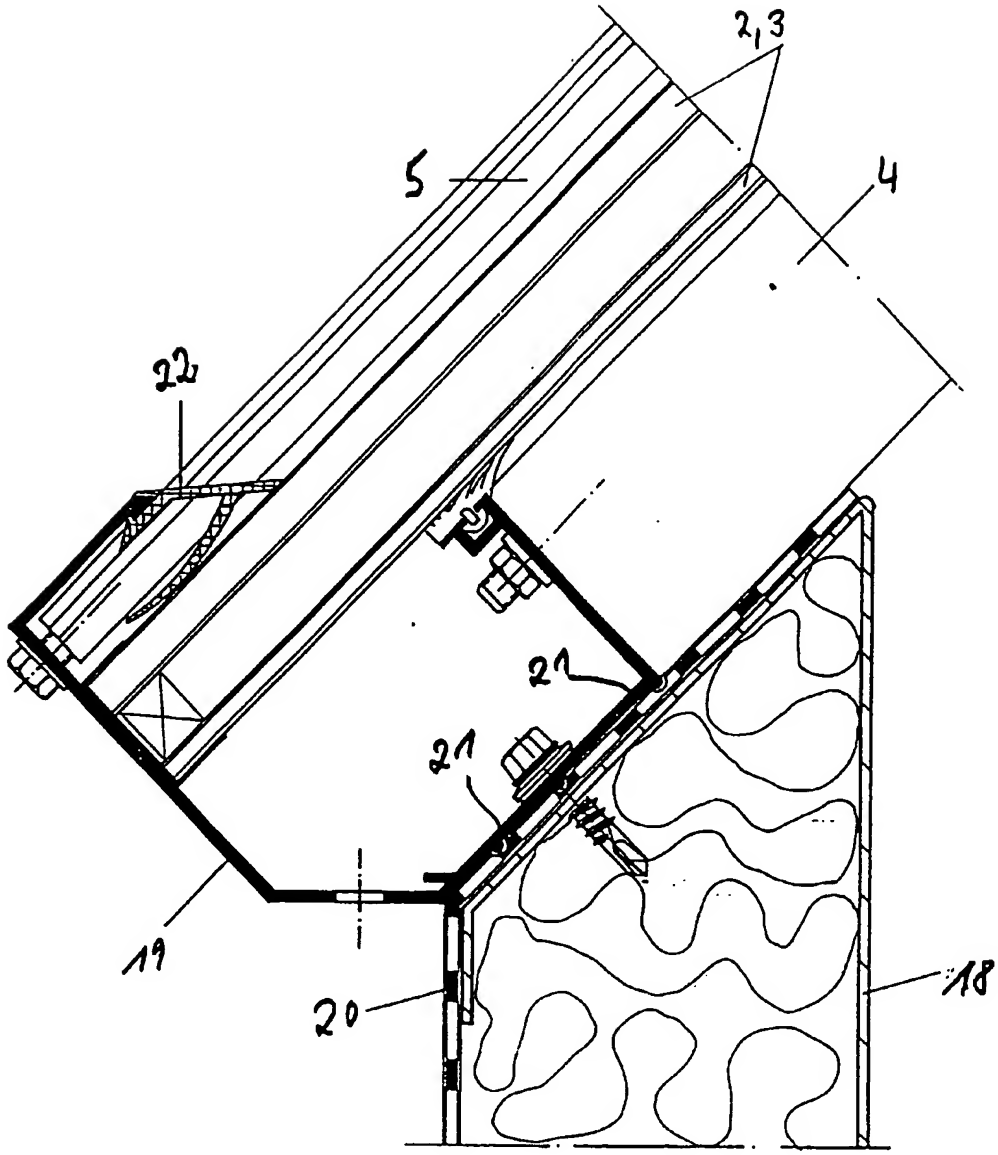

Fig. 3

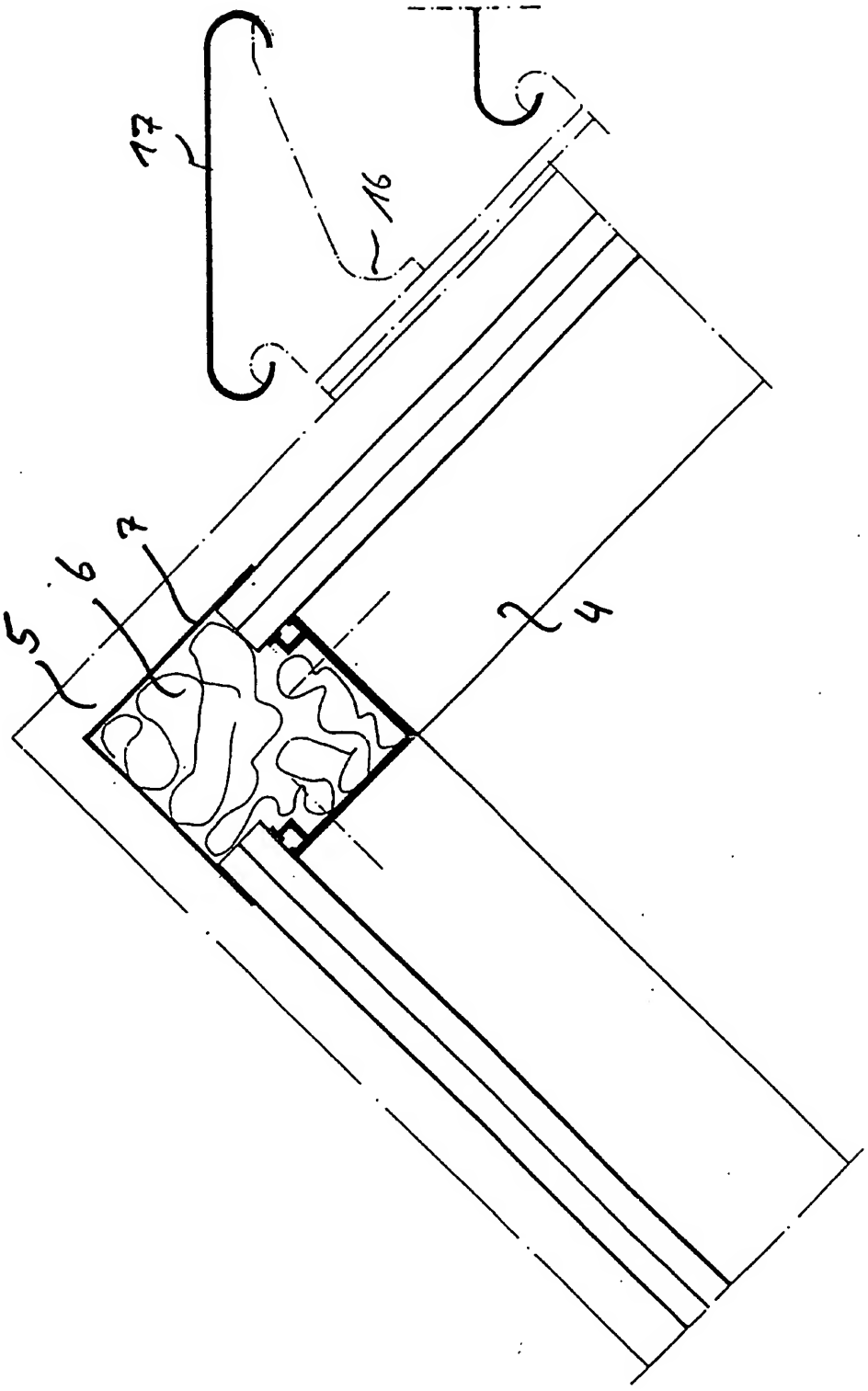

Fig. 4

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EUROPEAN SEARCH REPORT

Application Number

EP 91 31 1467

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X A	GB-A-2 217 764 (SOLARCHECK LTD) * page 8, line 4 - page 9, line 17; figures 6-8 * ---	1-4 5-7	E04D13/03 E04D3/08
P,X P,Y	WO-A-9 104 380 (INSULITE LTD) * page 6, line 5-25; claim 1; figures * ---	1-7 8	
Y A	CA-A-1 196 168 (ROBERTSON INC.) * page 9, line 12 - page 11, line 20; figures 7,8 * ---	8 1,9,10	
A	FR-A-2 525 256 (R.LETRILLARD) * page 2, line 20 - line 39; figures 1,2 * ---	1-4	
A	GB-A-2 116 619 (DOR-LINE LTD) * abstract; figures * ---	1	
A	EP-A-0 191 274 (LANTER S.R.L.) * abstract; figures 1,5,6 * ---	1	TECHNICAL FIELDS SEARCHED (Int. Cl.5)
A	FR-A-2 367 160 (H.SEIDEL) * claims 1,2; figures * -----	1	E04D E06B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	25 MARCH 1992	RIGHETTI R.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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